

The Newsletter of the EAST GREENBUSH AMATEUR RADIO ASSOCIATION

December 2021

www.egara.club

President Emeritus - Tom Scorson, KC2FCP    President - Bryan Jackson, W2RBJ    Vice-President - Walt Snyder, N2WJR  
 Secretary - Steve VanSickle, WB2HPR    Treasurer, Don Mayotte, KB2CDX  
 Board Members:    David Jaeger, Jr., K2DEJ    Russ Greenman, WB2LXC    Dave Gillette, KC2RPU

## Walt Snyder, N2WJR, Signs On as Club VP

Members in attendance at the club's November meeting unanimously elected Walt Snyder, N2WJR, as Vice President to fill out the unexpired term of Nick Field, KD2JCR, who resigned due to work and family commitments. Walt nominated himself for the post after no one else took the opportunity to run for the office or make a nomination.

Under the club's bylaws, he was immediately installed into the office and will serve until the next election of officers in April 2022.

"The officers and board of EGARA are pleased that Walt agreed to take on the role and look forward to working with him as we move forward," said President Bryan Jackson, W2RBJ. "Walt's always been an active club member and has been supportive of its activities and service work."

Following his election, Walt met with the club's other officers to discuss his responsibilities and ideas. Among his duties, as outlined in the club's bylaws, the Vice President acts as its emergency communication liaison. Local emergency coordinators were informed of Walt's new role and were advised to add them to their contacts. He will also assist in sending out communications to club members as needed.



Walt makes a call from his basement shack, one of three set ups at his home

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### EGARA Annual Holiday Party Returns

After being forced to cancel last year's Christmas-time get together because of the pandemic, club members are set to celebrate the holiday season on Wednesday, December 8th with dinner at Moscatiello's Restaurant in Troy. The gathering will kick off at 6:30 pm.

Dinner will be off the regular menu, with members covering their own bill. However, Santa will also be handling out free raffle tickets to those in attendance for a chance to win a host of early Christmas presents -- including a dual-band VHF/UHF HT radio.

Members interested in joining the festivities are requested to RSVP by email to [W2RBJ@Outlook.com](mailto:W2RBJ@Outlook.com) if they haven't already done so. The deadline for reservations is Monday, December 6th.

**Holiday Party - December 8, 2021 - Moscatiello's Restaurant**

# Merry Christmas and Happy New Year from EGARA!



## ALL CHARGED UP!

When club members go to mow the lawn at the Masonic Lodge from now on, hopefully they won't have to worry about the lawn tractor not starting because it has a dead battery. Thanks to two members, the mower is now connected to a solar panel to keep its battery charged and ready to go.

Dave Smith, WA2WAP, donated the panel and Steve VanSickle, WB2HPR, installed it on the south side of the storage shed where the mower is kept. A quick check verified that the panel was doing its job, providing plenty of power to keep the battery topped off, even on an overcast day.

With the onset of colder weather, the lawn tractor is expected to sit idle until spring when the mowing season begins again. But, with the new solar charging system in place, hopefully dealing with a run down starter battery will no longer be an issue.



Steve finishes the solar panel install by weatherproofing the wiring pass thru into the shed



## The History of Ham Radio: High Latitudes and Low Wavelengths

Chris Codella, W2PA, author, John Pelham, W1JA, editor, Phil Johnson, W2SQ, editor

(Editor's note: By special arrangement with the authors, Sidebands is pleased to present this multi-part series on the history of ham radio. Subsequent chapters will be published in future monthly editions of the newsletter)

Donald B. MacMillan, an experienced arctic explorer and geologist, visited Hartford in early 1923 to discuss amateur radio with Hiram Percy Maxim.

Among his various scientific investigations, MacMillan was planning to study the aurora borealis. No one yet understood what the aurora was, but he had experienced it on previous trips and noticed that he could hear long wave radio signals through it. On his next expedition, besides photographing the aurora, he wanted to experiment with shortwave radio signals to see whether they were affected by it. And, perhaps influenced by the broadcasting boom, he intended to use radio for more than scientific work alone. He believed it might also help combat the loneliness of a long arctic winter camp and its damaging effects on crew morale. Just hearing voices and music from the civilized world would be a big boost; two-way contact would be huge.

MacMillan was in town to ask Maxim for help from the ARRL during the expedition and to select an amateur radio operator to join his crew.

The plan began to take shape almost immediately. The expedition would be on the air beginning on 20 June, identifying itself with the call sign WNP (for wireless north pole). Although the shipboard station was licensed to use any wavelength its operator chose, they planned to operate between 200 and 300 meters, still considered shortwave.

After considering a list of candidates to accompany the expedition, the ARRL Board chose Donald H. Mix, 1TS, of Bristol, Connecticut, who was then interviewed by MacMillan and accepted as a member of his crew. A longtime major contributor to the Calls Heard section in QST, Mix was well known as a skilled operator and active League member. Among his many accomplishments, he had earned the distinction of having copied the most West Coast stations of any other amateur in New England. A graduate of Bristol High School, Mix was employed by the C. D. Tuska Company in Hartford—ARRL co-founder Clarence Tuska's company—as head of the assembly department. It's therefore no wonder that when he agreed to go on the trip, his employment situation would not be an issue.

At age twenty-one, never before having been on a sea voyage of any kind, much less one to the arctic, Mix would confront new challenges daily. And as an amateur radio operator he would have to deal with operating conditions never before experienced by anyone—working through perpetual daylight for the first few weeks and sometimes through aurora. Back home, the League's job would be to regularly make contact with WNP and relay news stories sent by Mix to a syndicate of seventy newspapers called the North American Newspaper Alliance (NANA).



**The Bowdoin**

MacMillan's schooner, the eighty-foot Bowdoin, named after Bowdoin College, his alma mater, could carry two thousand gallons of fuel, giving it the longest range under power of any sailing vessel in the world—about one thousand miles. The ship would navigate a course north along the western shore of Greenland and across Baffin Bay to anchor at Flagler Bay in late August, where it would spend the next nine months frozen in the arctic winter ice. At 79° north latitude, the location was about 540 miles northeast of the magnetic pole, and 700 miles from the geographic pole. MacMillan had chosen this spot to support his scientific mission to study geomagnetic effects and local wildlife. If all went as planned, the following summer thaw would permit their return by September 1924.

The expedition's radio equipment was designed by M. B. West, 9BA, well known before the war as 8AEZ. West had resigned his civilian job with the Navy to join the Chicago Radio Lab, recently renamed Zenith.

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## The History of Amateur Radio ... (continued from page 3)

He visited the Bowdoin at its dock in Southport, Maine, to take measurements, acting as tailor for its new radio outfit. The equipment was then hand-assembled by West and other amateurs at Zenith, the company founded by R. H. G. Mathews whose call sign, 9ZN, had inspired its new name. "It is a ham party," observed ARRL Secretary Warner, especially with the rest of the ARRL to communicate with. Although other polar expeditions had carried radio equipment, none had yet succeeded in using it effectively. This one would be different.

WNP was equipped with a Zenith model 1-R receiver covering shortwaves from 150 to 850 meters, and a longwave set for receiving naval stations NAA and NSS. Its transmitter was a two-tube circuit, running 100 watts, designed to tune into antennas that were shorter than normal, limited by the size of the ship. All units were built as proper furniture, with panels of "mahogonite Radion" and cabinets of "piano-finished mahogany."

The station's daisy-chain power supply consisted of a 500-watt Telefunken 500-cycle alternator, which was driven by a DC motor, which drew current from the ship's 160-ampere-hour automotive batteries, which were kept charged by a pair of 350-watt Delco light plants, a kind of fuel-powered generator used at the time in rural areas for lighting.

In addition, the plate voltage for the vacuum tubes was supplied by a separate set of batteries. The Burgess Battery Company of Madison, Wisconsin, plucked their best 1,000 cells from a 10,000-unit manufacturing run and delivered them to the expedition in special waterproof packages, all free of charge. These would last 18 months—longer than would be necessary. But as a contingency, Burgess also supplied tools, parts, and chemicals for them to construct new batteries from scratch to last an additional two years.

The radio equipment was first tested all together in Chicago where the engineers found they could easily work several distant stations including 1AW in Connecticut and 6KA in California, all on a short antenna. West and the Zenith crew then installed it on board the Bowdoin on 31 May, and were on the air signing WNP. The company also stocked the ship with enough spare parts to completely replace the receivers and most of the parts in the transmitter and power plant should that become necessary.

Mix planned to operate on 185, 220, and 300 meters, with the primary wavelength being 220. He would be on the air every night, closely rationing operating time to conserve fuel. MacMillan intended to send weekly reports which the ARRL would then relay to the news alliance. Mix would also log all calls he heard and include the list in his reports. Amateurs who received reports were instructed to mail them to a NANA member newspaper immediately, and then send a copy to ARRL. Messages marked URGENT (used only for emergencies) were to be telephoned or telegraphed to a NANA newspaper immediately.

As the Bowdoin set sail on 23 June for her 14-month voyage, Maxim was present to see the expedition off at its dock in Wiscasset, Maine. Shortly afterwards, Vermilya, 1ZE, was assigned to receive the first news dispatch for the newspapers. Despite bad weather in July, a half dozen amateurs worked WNP and perhaps twice that many heard its signals in the first couple of months. But communications worsened and then remained poor once they reached far enough north to experience the arctic all-day summer sun in early August. Mix could hear and even log stations but not work them. Even powerful NSS was not copyable due to weak signals and QRM from European commercial stations. Eventually the change of seasons caught up with and passed the Bowdoin as it proceeded north so that the sun once again set, spending about three hours below the horizon by late August.

Though two-way contacts continued only sporadically, the ones between WNP and 1ANA in Chatham, Massachusetts, were most impressive. They spanned 2,500 miles when the expedition was within 50 miles of its destination, with mid-summer daylight conditions presiding over a major portion of the route.

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Zenith station equipment aboard the Bowdoin. Left to right are Fred Schnell, Don Mix, Kenneth Warner, M. B. West, and Donald MacMillan.

## On the Beam

### News & Notes

### October 2021 Volunteer Monitor Program Report

The Volunteer Monitor (VM) Program is a joint initiative between ARRL and the FCC to enhance compliance in the Amateur Radio Service.

- Technician-class operators in Yarmouth Port, Massachusetts, and Richmond, Texas, received Advisory Notices after making numerous FT8 contacts on 40 and 20 meters. Technician-class licensees are not allowed to transmit data on 40 meters and have no operating authority on 20 meters.
- Operators in Mims, Florida; Moorefield, West Virginia; State Road, North Carolina, and Grottoes, Virginia, received Advisory Notices concerning excessive SSB bandwidth on 40 and 75 meters. The operator in Moorefield, West Virginia, previously received an Advisory Notice for out-of-band operation on 7.138 MHz. His case will be referred to the FCC for further enforcement action, which could include removal of voice privileges from, or revocation of, his General-class license.
- An operator in Cave Creek, Arizona, received an Advisory Notice for making lengthy transmissions without identifying, as required by Commission rules.
- An operator in Highlandville, Missouri, was reminded that a beacon on 30 meters cannot be automatically controlled, pursuant to 97.203(d) of the Commission's rules, and must have a control operator present at all times of transmission. He was further advised that the FCC may request a schedule of control operators and their duty hours.



The final totals for monitoring in September were 1,909 hours on HF frequencies and 2,716 hours on VHF frequencies and above, for a total of 4,625 hours.

There was one recommendation to the FCC for case closure and renewal of a license, and one request to review a license application. The FCC referred two cases to the VM Program.

## FCC Exam Session Set for December 4th

### *There's Still Time to Register!*

EGARA will hold an FCC Amateur Radio licensing exam on Saturday, December 4th, providing an opportunity for prospective new hams to get on the air and for current Technician and General ticket holders to upgrade to a higher license class. Exams for all licenses will be offered -- Tech, General and Extra. The exams will be held at the East Greenbush Masonic Lodge and begin promptly at 10 am.



Pre-registration is recommended, but walk-ins are also welcome. Reservations can be made by sending an mail to W2RBJ@outlook.com. Applicants should provide their name and call sign, if they have one, as well as what test they plan to take. A \$15 fee is required for all applicants. As of the end of November, four applicants had signed up for tests.

Applicants are reminded that they must have an FRN number from the FCC before taking their exam, as Social Security numbers are no longer being accepted. For complete information and instructions, applicants should visit the club's website at [www.EGARA.club](http://www.EGARA.club).

## EGARA November Meeting Minutes

- The November 10, 2021 meeting of the EGARA was called to order at 7:02 PM by President Bryan Jackson, W2RBJ. 15 members attended at the Masonic Temple.
- The next meeting will consist of the annual Christmas Party – currently planned for Mosciatello's on December 8th. Alternate locations were mentioned.
- A raffle was conducted, and several members won prizes.
- Nick Field's resignation from the VP position necessitated a special election to fill that post. Walt Snyder, N2WJR self-nominated, and with no other candidates, was unanimously elected to fill the remainder of the vacancy per club by-laws.
- A VE exam session will be held at the Masonic Temple on Saturday, December 4th, 2021 at 10 am.
- Special thanks to Bob Isby, K2RHI, Bryan Jackson W2RBJ, and Don Mayotte, KB2CDX for all their hard work in getting the 145.110 and 224.800 repeaters up and running at the HVCC site in Troy. The work was accomplished over two weekends. The 440.700 repeater was recently inspected and tested. Tom Scorsone has been working on restoring Echolink system at the 147.270 repeater site.
- There is no update on the mold remediation project scheduled at the Masonic Temple.
- ARRL membership dues may be paid through the club – contact Bryan Jackson for details. The club receives a small stipend for facilitating these payments.
- Members were asked for contact information for member Joe Squillace. His emails have been returned undelivered.
- For Sale/Trade items can be listed in Sidebands, the EGARA monthly newsletter. Information should be sent to Bryan W2RBJ.
- Minutes of previous meetings can be found on the EGARA.club website, as a part of the archived Sidebands newsletters.
- The Treasurers report was given by Don Mayotte, KB2CDX. Monthly expenses include the cost of the Thank-You pizza party at Mercato's Restaurant as a show of appreciation for all the Hamfest volunteers.
- Ridge Macdonald, KB2HWL informed members of the availability of monthly zoom meetings for the area ARES members featuring informative topics such as the recent "Sound Cards" as used in the WINLINK system.
- A multi-media presentation on the history of ham call signs was led by Bryan Jackson, followed by some related information regarding the sinking of the Titanic.
- Pizza and hot and cold drinks were provided to the club members.
- The meeting was concluded at 8:05 PM.

Submitted by Steve VanSickle, WB2HPR - Secretary



# Some Ideas for Getting On the 220 Band

By Steve VanSickle, WB2HPR

Last month's edition of Sidebands showcased the recent installation of the 220 (mHz) club repeater at HVCC. (All of the frequency/offset/ tone information is listed on your club's website: EGARA.club) The CW ID is "W2EGB". This month, I'd like to provide some guidance and insight about how to best utilize EGARA's newest asset.

First, it may be helpful to get a feel for 220 signal propagation. This band shares several of the properties of the 144 VHF/2 meter and the 444 UHF/70 cm bands. The optimal signal path is primarily line-of-sight, although, like 2 meters, there is more refraction/bending than would occur on 70cm. Unlike 2 meters, 220 is sometimes a little better at building penetration, and in this regard, behaves a bit like it's 70cm cousin at UHF. All three bands are usable for moon bounce work, and both 220 and 70cm may be employed in fixed control link systems. Due to the limited usage in this area, there can be less interference due to overcrowded conditions. There is less spectrum space on the 220 band, which can accommodate fewer repeater systems. (The frequency spacing standard is 1.6 mHz. )

To utilize the benefits of 220, you will need appropriate equipment. Since the band is mainly used in Region 2, the selection of equipment is limited. I have been asked for suggestions about what to use.

Currently, most offerings are Chinese imports, although there are other offerings from ICOM, Kenwood and Yaesu -- often as used equipment. As of this writing, the "Big Three" are not producing any radios that cover ONLY 220 mHz. There are some multi-band models, but usually the 220 transmitter power is limited. Same goes for multi-band hand helds from ICOM, Kenwood and Yaesu.

Some popular mobile models such as Alinco DR-235, Jetstream JT220, ICOM IC-37A, Bridgecom BCM220 are frequently offered on the used market, and will serve well in the 220 repeater system service. Currently, the Anytone AT-588 has been used by many and has earned a good reputation -- but there are others. Check the test results and specifications that are routinely published in the QST equipment reviews. There are also some transverters out there -- available as used. These would allow use of a multi-mode transceiver on 220 thru up/down conversion, usually to the 10 meter band.

There are many 220 H/T offerings for sale. Most allow 220 coverage as part of a multi-band configuration. Manufacturers of new H/Ts include Wouxon, B-Tech, Baefong, and others. I suggest that you check equipment reviews and specs before you spend your money. Again, there are many used offerings from Alinco, ICOM, and others.

Many antennas are available, from companies like Arrow, Hustler, M-Squared, just to name a few. You could always make your own (a quarter wave whip is approximately a foot long) or you could construct a ladder-line or copper pipe J-Pole -- there are numerous web sites showing the proper dimensions.

You'll want to use good quality coax for your antenna -- better quality usually means lower loss and superior mechanical integrity. Consult the ARRL Antenna Book for the best type(s) to use - based on line length and power rating.

Coverage of the new EGARA 220 repeater is currently being evaluated, but so far we have tested successfully to Schenectady, Colonie, Albany and Saratoga Counties. When we compile more information, a coverage map will be available. Until then, get on the air -- get in on the fun and give the club's new 220 repeater a try!



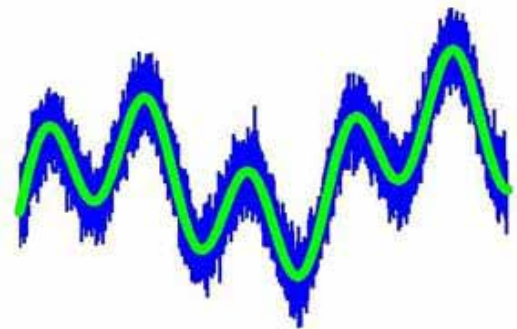
**Good used radios for 220 service include units such as the Alinco DR-235 mkII**

## ARRL Clean Signal Initiative on the Horizon

By Dan Romanchik, KB6NU

In recent message to his Northwest Division membership, Mike Ritz, W7VO, described a new program that he's gotten the ARRL to take on—the Clean Signal Initiative. He writes:

“After a few months gathering support from the amateur community for the project, the ARRL Clean Signal Initiative (CSI) is finally getting off the ground. The Board's Programs and Services Committee approved the concept several months ago, and since then I have been canvassing some of the best known RF engineers in amateur radio to get their support and input. All I can say at this time is that there are some amateur radio “heavy hitters” behind this, and I believe will be a game changer for the ARRL.”



For those that may be unaware of this project, here is a synopsis (or at least my vision):

1. The CSI gets the ARRL formally in the “technical standards” business. (Other technical organizations already do it: IEEE, UL, ASTM, and SAE, and others.) The ARRL currently tests new products to informal standards, with no real hard benchmarks for manufacturers to meet, other than the minimal standards outlined in FCC Part 97.307.
2. Creates and incorporates documented “best practice” standards and testing methodologies to ensure commercial amateur radio transmitters and amplifiers meet not only minimum FCC requirements for signal cleanliness, but push the envelope.
3. These new standards can be “home grown”, or passed through the IEEE, but I think it's important they be also branded as “ARRL Technical Standards.”
4. Test new commercial transceivers and amplifiers against these standards.
5. Certify the transmitters and amplifiers that pass the standards: “CSI certified by the ARRL.”
6. Work with manufacturers to ensure compliance of those that don't. (Market pressure will drive this.)
7. Market the program to the amateurs through QST.
8. Work with manufacturers and social media experts to create training materials to teach hams how to set up their equipment to ensure the cleanest transmitted signals. (This education part is key!)”

Rob Sherwood, NC0B, of Sherwood Engineering, who is most well-known for his ranking of receiver performance (<http://www.sherweng.com/table.html>), is part of this effort. You can see a video of a talk that he gave recently to the Sutton & Cheam Radio Society by going to <https://youtu.be/IioApKRecrI>. Also on the committee is Ward Silver, N0AX.

Based on my knowledge of how IEEE standards committees work, I stressed that the initiative should make every effort to get as many stakeholders—including manufacturers and users—involved as possible. Involving so many people may be cumbersome at times, but standards require consensus for them to be effective, and the only way to do that is to get everyone involved. I'd suggest that if you feel that you have something to contribute that you contact Mike directly. His email address is [w7vo@arrl.org](mailto:w7vo@arrl.org).

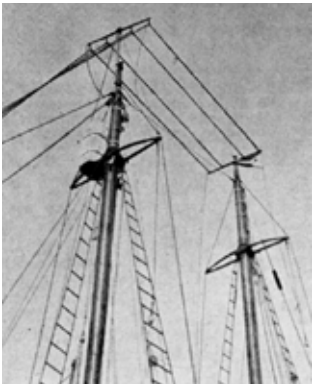
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Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the “No Nonsense” amateur radio license study guides (<https://KB6NU.Com/study-guides/>).



## The History of Amateur Radio ... (continued from page 4)

R. B. Bourne, 1ANA, a “receiving engineer” at RCA, handled most of the reports from the MacMillan expedition during its first few months. He used an unconventional antenna: a tilted inverted-L consisting of a 45-foot section angling upwards and away from his 100-foot steel tower, connected to a 70-foot top section angling up in the opposite direction where it terminated into an insulator at the top of the tower, which was connected to station ground. In effect, this made it a huge single-turn triangular loop with an insulated break at the top, which acted like a condenser in series.



The Bowdoin's aerial

The transmitter, located in a small, windowless beach hut just big enough for the equipment, was a single 50-watt tube driving the antenna on 185 meters. He used a Reinartz receiver that was modified to be capable of tuning down to 75 meters. Its antenna was simply a 60-foot-long wire 30 feet in the air. From the receiving station located several hundred feet away, the transmitter was controlled by a single wire with ground return which drove two relays. This permitted a kind of break-in operation that was not at all what we would call QSK today. A momentary tap of the key threw a polarized relay, which applied plate and filament voltage to the transmitter. The plate voltage did not appear immediately since a high voltage vacuum tube rectifier was used and took time to warm-up. Once things were heated and ready, subsequent keying applied voltage to the primary of the plate supply transformer via the second relay. When transmission was over, a second key sent a reverse polarity voltage to the keying line, which then toggled the polarized relay off.

Persistence had paid off for “BO” at 1ANA, who did not have a particularly powerful or elaborate station, but more importantly was “a good operator who has the patience to sit and listen,” wrote ARRL Traffic Manager Fred Schnell. He believed that this testimonial to operator skill would inspire others to get on the air and listen more carefully as winter approached and conditions gradually improved.

In Chicago, Mathews announced that a prize—a duplicate of the receiver installed on the Bowdoin—awaited the next US or Canadian amateur to take an official MacMillan message. Schnell remarked that, “1ANA already has made room in his shack for this outfit.” Unfortunately, Bourne was taken out of contention, forced to shut down shortly after his initial contacts, when his employer, RCA, transferred him to their Marion, Massachusetts, station.

Although very spotty contact continued as fall approached, Mix began to hear West Coast stations frequently. Finally, just before midnight on 7 September, 7DC made brief contact but signal strength and conditions were so poor he could not even get the “all’s well” message from Mix. Others were listening too.

Jack Barnsley, Canadian 9BP at Prince Rupert, British Columbia, happened to hear WNP trying without success to reestablish contact with 7DC that night. After waiting a few minutes for a reply and not hearing one, he called WNP and was thrilled a half-minute later when Mix replied that he was “VY QSA,” meaning perfectly readable.

Barnsley copied the first NANA news bulletin from WNP after the expedition set up camp, and was then in regular contact for the rest of the year. Having kept detailed logs and traffic count by the word, Mix later reported that of the 16,000 total words he’d sent, fully half had gone through 9BP. “On one night he worked nearly two hours copying thirty words under conditions where an ordinary operator would have given up,” wrote Mix.

Barnsley’s anchor station, 9BP, had also been the westernmost participant in the Canadian transcons (transcontinental message relays).<sup>14</sup> He used two 50-watt tubes with 1,500 volts on the plates for a transmitter, and, for receiving, a Paragon model RA-10 regenerative tuner and model DA two-stage audio amplifier, similar to Godley’s station in Ardrossan. This was fed by an inverted-L aerial of conventional cage design having a vertical section 65 feet high and a 75-foot horizontal run, with a 12-wire counterpoise ground system strung below. Jack Barnsley would accept the CRL Zenith receiving setup in reward for his work with WNP.

The equinox came and went and the nights grew unusually long. By mid-November 1923 the Bowdoin was frozen in place at temperatures well below zero Fahrenheit, and the sun had not been seen since late October—an uncomfortable environment for radio operators but ideal for radio.

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## The History of Amateur Radio ... (continued from page 9)

WNP was now being copied mostly by West Coast stations, only a few elsewhere and none on the East Coast any longer. Besides receiving the news dispatches, 9BP was also passing along traffic to families of the expedition's crew and sending back news from home.

With improving on-air conditions during November, twenty amateurs worked WNP in fifty-one QSOs. It was the best traffic month of the expedition according to Mix, as 9BP continued to handle nearly all of their message traffic including the press reports. A new two-way distance record was set in a 15-minute QSO between WNP and R. Smith, 6CEU, of Hilo, Hawaii, who was transmitting with three 5-watt tubes. Mix wrote that he nearly fainted when he heard Smith answer his CQ. They continued to work each other right through the winter.

Mix strung new antenna wires from the ship's mast to some nearby hills, a relief from the confines of the ship's dimensions, which had limited the antenna's length. The Zenith equipment had been performing very reliably—no tubes had been changed since leaving Maine. At this point he was getting news directly from six amateur stations plus European commercial stations POZ and GBL, and reported hearing music from a station in Glasgow, the only European broadcaster that he could identify. As the winter progressed he began to hear many more North American broadcasters. The crew was especially surprised one night to "hear CFCN call out 'Hello WNP somewhere in the Arctic. Hope you are getting this.'"

A cartoon drawn by frequent QST cover artist Clyde Darr, 8ZZ, depicted his conception of Don Mix's transformation from bow-tied and suited, clean-cut New Englander to whiskered and wild-haired arctic explorer fitted in fur. Born in 1879, Darr had grown up in radio closely paralleling Vermilya's example, passing through the neighborhood telegraph, spark coil, and transformer stages to become a first class CW operator as 8AJD and 8CB. After qualifying for a special license and receiving his prized 8ZZ call sign, he became the first station in Detroit to broadcast music. As president of the Detroit Radio Association, member of the ARRL board, and Central Division assistant manager, Darr was well known for his work both on and off the air.



On 22 December 1923 President Coolidge sent a holiday greeting to the MacMillan expedition via the RCA station in Washington, D.C. Not having a commercial station in the arctic, RCA then telephoned ARRL headquarters to ask whether the League could convey the message. So QST Technical Editor Kruse began trying to send it from his home station in Hartford that same night. But conditions were particularly poor with loud electrical power line noise pervading the air. He was therefore pleasantly startled to hear Darr at 8ZZ "merrily chewing the rag" with Mix at WNP. Kruse called repeatedly but could not make contact. Exasperated, he turned for help from several other local stations who all tried to raise 8ZZ, only to hear Darr complain of the QRM, then abruptly sign off for bedtime, just missing his chance to deliver the president's Christmas message in time!

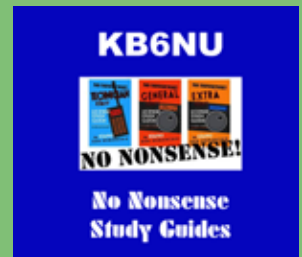
The next night Kruse contacted two other Detroit area hams who went over to Darr's house and woke him up to try again for WNP—but it was not to be. On 24 December 8ZZ finally got it relayed to Barnsley at anchor station 9BP who uncharacteristically could not raise WNP either. After trying for several additional nights he finally got through and passed the message on the evening of New Year's Day 1924. The final reported routing path of the president's message was 1HX-8ZZ-5GO-9BP-WNP. To speed things up, the reply message went via wire directly from Barnsley.

Propagation continued to mystify and amaze all involved, especially when WNP reception reports began arriving from New Zealand.

Unknown to the northern explorers, new radio territory was also being charted far south of 200 meters by explorers of another kind.

The MacMillan expedition is one of the most well documented and widely written about events in early amateur radio history. For additional reading see the articles by Dilks and the book by Bartlett. We will pick up WNP again here, in a later issue of Sidebands.

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## **Bah Humbug! FCC Proposes a Wi-Fi Tax — *For Real This Time***

Comment and Opinion by Harold Feld, Forbes Magazine Technology Council

In the 1980s, rumors constantly circulated that the Federal Communications Commission intended to impose a “modem tax.” In the 1990s, this morphed into an “email tax” by the post office. In the early 2000s, the rapid growth of Wi-Fi spawned an equally robust Wi-Fi tax rumor. In all these cases, the agencies in question debunked these claims as urban legends and hoaxes.

This more than three-decade streak ended last month when the FCC officially sought comment on an honest-to-God Wi-Fi tax proposed by the National Association of Broadcasters (NAB). The NAB proposal would assess regulatory fees on “unlicensed spectrum users,” a category that includes users of Wi-Fi, Bluetooth and other consumer wireless devices. Technically, this would be a “regulatory fee” and not a “Wi-Fi Tax,” but if approved the result would be the same.

The FCC has the power to impose this tax because, as part of the Communications Act, Congress requires the FCC to collect regulatory fees to offset its costs. The FCC collects these fees from entities it regulates that receive special benefits from its regulations, as distinct from the general benefits of a working communications system. For example, every TV station has a free license from the FCC to have the exclusive right to operate on that channel. In exchange for what amounts to a local monopoly on these public airwaves, the FCC collects a fee from broadcasters to offset the cost of running the FCC attributable to regulating broadcasters. The FCC collects similar fees from any other entity that needs a license to operate, like cable providers and mobile phone networks.

The same law prevents the FCC from charging regulatory fees for things that confer a “general benefit” to the public as opposed to a specific benefit to a licensee. “Unlicensed spectrum,” as the name implies, is open to everyone. This is why you don’t have to pay a monthly subscriber fee or watch advertisements (or both) when you use Wi-Fi or Bluetooth using unlicensed spectrum. You pay for your broadband subscription, but you don’t pay extra to use an iPad with Wi-Fi. In addition, just about every wireless consumer device, from your wireless TV remote to your garage door opener to your baby monitor, uses unlicensed spectrum — even though they don’t use Wi-Fi or connect to the Internet.

Why Do Broadcasters Have Against Unlicensed Spectrum? After years of the FCC denouncing similar fee proposals as urban rumors, why did the FCC suddenly propose a Wi-Fi tax? Pressure from broadcasters, who remain one of the Beltway’s most powerful lobbies. This leads to the obvious question: Why do television broadcasters have an issue with Wi-Fi?

Fortunately, we don’t have to guess. The NAB has made it abundantly clear this is payback against tech companies — particularly Microsoft. Broadcasters don’t just claim to own their individual channels. They claim to collectively own all “broadcast spectrum.” About 10 years ago, the FCC authorized unlicensed access to unused television channels, aka “TV white spaces.” Broadcasters vowed to strangle the new technology in its cradle rather than share “their” spectrum and, unfortunately, were largely successful. But in recent years, Microsoft has tried to resurrect the TV white spaces as a way of bringing broadband to rural America.

With an honesty one rarely sees in Washington, the NAB made clear it wanted a Wi-Fi tax to punish Microsoft for daring to use “broadcast” spectrum — even though the channels are empty. “Essentially,” the NAB wrote in its FCC filing, “Microsoft wants the FCC to hinder broadcasters’ ability to offer their services in favor of protecting Microsoft’s speculative and heretofore disappointing technology. Yet despite the substantial Commission resources Microsoft and other unlicensed users utilize in these and other proceedings for their benefit, they pay absolutely nothing in regulatory fees.”

While the FCC rejected this proposal for this year’s fees assessment, it apparently felt enough pressure from broadcasters to put NAB’s Wi-Fi tax proposal out for public comment and consideration for 2022.

The NAB Wi-Fi Tax Should Be Stopped: The idea that a tax on unlicensed spectrum would only hurt Microsoft or “big tech” is absurd. The whole point of unlicensed spectrum is that it’s open for everyone to use. The effort by broadcasters to impose a Wi-Fi tax should be as laughably ridiculous as modem taxes and email taxes. But rather than simply deny the proposal, the FCC has put it out for public comment.

Anyone who uses Wi-Fi, Bluetooth or any other connected device needs to make it clear to the FCC and Congress that everyone benefits from unlicensed spectrum. Unless public backlash makes this proposal toxic, broadcasters will continue to push their retaliatory agenda. Unlicensed spectrum is the one part of the public airwaves that genuinely belongs to the public. The FCC needs to keep it that way.

## Radio Amateurs Invited to Participate in the Antarctic Eclipse Festival in December

The HamSCI Antarctic Eclipse Festival in December is seeking amateur radio participation. As the shadow of the moon passes across Antarctica on December 4, it will generate traveling ionospheric disturbances that will, in turn, affect radio propagation. The unusual geometry of this year's eclipses will give researchers an opportunity to investigate complicated ionospheric dynamics over the poles as the long daytime of polar summer is briefly interrupted by the eclipse.

During this and other HamSCI eclipse festivals, hams and citizen-scientists are asked to collect Doppler-shift data from time-standard stations, such as WWV. All that's needed is an HF radio connected to a computer. A GPS-disciplined oscillator is helpful for collecting data, but it is not required. Data collection will run from December 1 through December 10, and the results will be made available for scientific analysis.

All radio amateurs and shortwave listeners are invited to join in, even those located far from the path of totality. In 2020, more than 100 individuals from 45 countries took part in eclipse festivals. The instructions are available in multiple languages.

HamSCI is an initiative of ham radio operators and geospace scientists dedicated to advancing scientific research and understanding through amateur radio activities. Eclipse festivals are pilot campaigns for the Personal Space Weather Station (PSWS), HamSCI's flagship project. The PSWS team seeks to develop a global network of citizen-science stations. Participants monitor the geospace environment to deepen scientific understanding and enhance the radio art.

For more information on the Antarctic Eclipse Festival and how to participate, visit the HamSCI website at: <https://www.hamsci.org/december-2021-eclipse-festival-frequency-measurement>



## ARRL Launches YouTube Tech Course

Know someone who's interested in getting their Amateur license? Direct them to ARRL's YouTube channel! It's easy to find at <https://www.youtube.com/user/ARRLHQ>.

The League has launched a series of Amateur Radio Technician-class license courses. This series of videos features Dave Casler, KE0OG, (pictured right) author of QST's "Ask Dave" column. His Technician Class video leads viewers through The ARRL Ham Radio License Manual.



These videos supplement the manual and provide an overview of the sections prospective licensee's will be studying, along with a few videos on how things work.

Share this excellent resource with those who are preparing to take their Technician exam, and visit the ARRLHQ YouTube channel for more great amateur radio videos.

## Santa Didn't Bring What Was on Your List?



### No Problem. We Will!

Let's face it. Santa's a busy guy and can't always bring everything we wish for.

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We carry all the top names in Amateur Radio gear and at great prices!  
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## A Note of Thanks

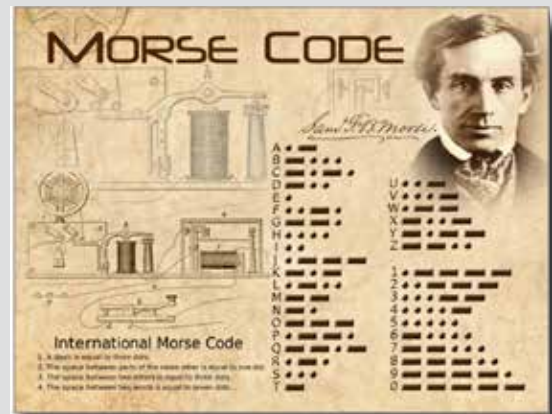
When Corrine Jackson, a New Hampshire school student, was given an assignment on ‘Famous Inventors and Inventions’, she decided to write about Samuel Morse and the Morse Code. Her teacher had decided to have students learn about famous people and how their inventions changed history.

Like many students, Corrine did an Internet search and found EGARA’s website. There she discovered information and links to help her get the project done. Her mom, Sarah, was kind enough to send the club an email of thanks:

“Your page led us to some great websites to check out, so Corrine and I wanted to make sure we thanked you!! It was neat to see how Morse Code and continuous wave changed the history of communication. It’s been fun for both of us!”

Corrine also found a new site on the history Morse Code and sent it along so it could be added to the EGARA website’s links page.

Here’s hoping Corrine got an A+++ on her paper.



## Job #1: Keeping Gear On the Air



Steve and Tom visit the 444.700 repeater to ensure it’s performing as expected.

Today’s electronic equipment generally has great reliability -- but that doesn’t mean it doesn’t need some TLC now and again. And, with winter on the way, it’s a good time to get maintenance done before the snow flies. That’s especially true if severe weather can make access to equipment difficult.

With that in mind, Steve VanSickle, WB2HPR, and Tom Scorsone, KC2FCP, headed up to the Helderbergs to check out and clean EGARA’s 444.700 repeater system. Keeping the machine on the air is especially important because its mountain location gives it long-range capability.

Recently, work was also done on the club’s other repeaters as well. This included installing the new 224.800 machine on the campus of Hudson Valley Community College in Troy, where the co-located 145.110 repeater also under went upgrades with a new antenna and coax. In addition, Tom and Don Mayotte, KB2CDX, upgraded computer equipment to the 147.270 machine to restore its connection to EchoLink.

The maintenance work and upgrades will hopefully keep everything running during the winter weather that’s coming.

# CALENDAR

**December 4, 2021 - 10 am** - FCC Exam Session for all license classes. Masonic Lodge, 710 Columbia Turnpike, East Greenbush, NY. RSVP to W2RBJ@outlook.com.

**December 8, 2021 - 6:30 pm** - Annual Christmas Holiday Party, Mosciatello's Restaurant, Route 4, Troy. RSVP to W2RBJ@Outlook.com by 12/6.

**January 12, 2022 - 7 pm** - Regular monthly club meeting. Masonic Lodge, 710 Columbia Turnpike, East Greenbush, NY.

## Pro Tip: Quieting Fans

In an age when nearly everything seems to be in short supply, you may be tempted to substitute a fan in a piece of equipment.

All fine and good, but caution is advised. If you're installing a DC "brushless" fan in this situation. It could result in an EMC noise issue due to the current pulses generated by the driver circuit that operates the field coils of the fan motor.

EMC, electromagnetic compatibility, refers to the interaction of equipment with its electromagnetic environment and other devices. These electromagnetic fields could result in something that sounds like spark plug noise. You can correct this by adding a simple R/C filter on the fan's "+" voltage lead.

Another tip involving muffin fans is to use models rated for 220 VAC but run them at 110. This is helpful in a situation where you need to improve ambient cooling around any equipment but where you don't want a fan that produces a miniature hurricane or the noise associated with high-speed operation.



## For Sale...

- **Comet CHA-250BX 80-6M vertical antenna.** Highly rated for DX work, no ground radial design and no tuner needed. Handles 250 watts. Great if you have limited space. Sells for \$429.00 new. Selling for \$100.00.  
Contact Bryan at W2RBJ@outlook.com.
  - **Connect Systems CS 800d** 2m /440 analog/digital DMR mobile asking \$150.00
  - **BCA-300** dual band 2m/440 mag mount antenna same define connector asking \$20.00
  - **HYS dual band antenna** 2m/440 nmo mag mount 20' tall asking \$20.00  
Contact Walt at: n2wjr07@gmail.com
  - **FREE Hamshack Hotline Phone** - Cicso SPA-303.  
Contact Bill Leue at: wleue1@nycap.rr.com or 518-410-6942
  - **VIBROPLEX "Bug" semi-automatic key.** Original "PRESENTATION" Model with Gold Plated baseplate escutcheon. Beautiful heavily chromed upper parts, bright red finger pieces, jeweled bearings. Lists for \$350 but you can own this beauty for only \$250 plus postage. In absolutely beautiful condition, this dazzling example of Vibroplex engineering will be supplied in a unique hard-shell protective carrying case.  
Contact Steve at: (518) 326-0902 or stevewb2hpr@gmail.com
  - **IFR-1100S Service Monitor.** With Spectrum Analyzer and Oscilloscope. Tested and Calibrated last year. AM - FM, CTCSS Generator, Good condition. \$875.00
  - **Yaesu FT-2900 Programming Software** by RT Systems Cable included. used once. Registered and includes password. \$29.00
  - **UHF RX Amp**, 1 input 3 outputs. 12V. SO-239s \$10  
Contact John at: radiowizz@aol.com
- Got stuff to sell, swap, or looking to buy?  
List it here for FREE!  
Email W2RBJ@outlook.com

## The East Greenbush Amateur Radio Association

Organized in 1998, by Bert Bruins, N2FPJ, (SK) and Chris Linck, N2NEH, the East Greenbush Amateur Radio Association, an ARRL affiliate, is committed to providing emergency services, educational programs, and operating resources to amateur radio operators and residents of the Capital Region of New York State. The club station is W2EGB. The club also has several VHF and UHF repeaters open to club members and the public.